

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY


(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 07 MAR 2006

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Applicant's or agent's file reference	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/US05/04533	International filing date (day/month/year) 14 February 2005 (14.02.2005)	Priority date (day/month/year) 13 February 2004 (13.02.2004)	
International Patent Classification (IPC) or national classification and IPC IPC(7): A61K 9/113, 31/05 and US Cl.: 424/400; 514/724, 937			
Applicant BIOAVAILABILITY, INC.			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of ___ sheets, as follows:</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 08 December 2005 (08.12.2005)		Date of completion of this report 21 February 2006 (21.02.2006)	
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201		Authorized officer  Gokarnad S. Kishore, Ph.D. Telephone No. 571.272.1600	

Form PCT/IPEA/409 (cover sheet)(April 2005)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/US05/04533

Box No. I Basis of the report1. With regard to the **language**, this report is based on:

- ☐ the international application in the language in which it was filed.
- ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4(a))
- ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- ☒ the international application as originally filed/furnished
- ☒ the description:
- pages 1-31 as originally filed/furnished
- pages* NONE received by this Authority on _____
- pages* NONE received by this Authority on _____
- ☒ the claims:
- pages 32-42 as originally filed/furnished
- pages* NONE as amended (together with any statement) under Article 19
- pages* NONE received by this Authority on _____
- pages* NONE received by this Authority on _____
- ☒ the drawings:
- pages NONE as originally filed/furnished
- pages* NONE received by this Authority on _____
- pages* NONE received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE
- ☒ the claims, Nos. NONE
- ☒ the drawings, sheets/figs NONE
- ☒ the sequence listing (*specify*): NONE
- ☒ any table(s) related to the sequence listing (*specify*): NONE

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims <u>1-8,13-15 and 21-73</u>	YES
	Claims <u>9-12 and 16-20</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-73</u>	NO
Industrial Applicability (IA)	Claims <u>1-73</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and Explanations (Rule 70.7)

Claims 9-12 and 16-20 lack novelty under PCT Article 33(2) as being anticipated by DENNIS et al (US 6,638,537).

DENNIS et al disclose microemulsions containing Propofol and a non-ionic surfactant (abstract and Tables).

Applicant's arguments have been fully considered, but are not found to be persuasive. Applicant argues that rather than disclosing the use of a single nonionic surfactant, Dennis discloses and claims the utilization of two surfactants. This argument is not persuasive since instant claim language, 'comprising' does not exclude two surfactants taught by Dennis. Applicant's arguments that Dennis does not teach self-emulsifiable compositions are not persuasive since instant claims are drawn to a microemulsion and not self-emulsifiable base compositions.

Claims 1-8, 13-15, 21-73 lack an inventive step under PCT Article 33(3) as being obvious over CRISON et al (US 5,993,858) in view of DENNIS et al (6,638,537) and WO 99/49848.

CRISON et al disclose self-emulsifying compositions containing non-ionic surfactant, alcohol for water insoluble drugs. CRISON et al also disclose other additives such as triacetin and stearic acid (abstract, col. 3, line 38 through col. 5, line 26 and claims). CRISON et al however, do not teach Propofol as the water insoluble drug. CRISON et al also do not disclose claimed surfactants and tocopherol.

WO while disclosing self-emulsifying compositions for water insoluble anti-cancer drugs teaches claimed surfactants, additives and tocopherol (abstract page 3, line 28 through page 5, line 11, page 6, line 6 through page 7, line 8 and examples).

It would have been obvious to one of ordinary skill in the art to use CRISON et al's self-emulsifying compositions for Propofol since it is also a water-insoluble drug and used in microemulsions as evident from DENNIS et al. The use of surfactants other than those taught by CRISON et al and DENNIS et al and include other claimed additives would have been obvious to one of ordinary skill in the art since WO shows that the claimed surfactants also are capable of forming self-emulsifying compositions and the claimed additives are routinely added in self-emulsifying compositions.

Applicant's arguments have been fully considered, but are not found to be persuasive. Applicant once again argues that Crison et al like Dennis teaches two surfactants. This argument is not persuasive since as pointed out above, instant claim language does not exclude the presence of an additional surfactant. Applicant argues that the micelles formed in Crison et al are smaller than instant sizes. This argument is not persuasive since instant claims do not recite any sizes. Applicant points out to col. 3, lines 56-59 of Crison et al and argues that the reference teaches solid form such as powder or granules. This argument is not persuasive since the example on col. 6, lines 35-50 of Crison et al clearly indicates solubilization of nifedipine. Applicant's arguments that the surfactants taught by Crison et al are generally not suitable for Propofol are not persuasive since applicant provides no experimental evidence to that effect. In the absence of such evidence, applicant's statements are deemed to be speculative in nature. Furthermore, as pointed out above, WO teaches instant surfactants. Applicant's arguments that WO also teaches two surfactants are not persuasive for the reasons elaborated above. Applicant's arguments that WO does not describe a carrier medium containing Propofol are not persuasive since the rejection is made on the combination of the references and not using WO alone.

Claims 1-73 meet the criteria set out in PCT Article 33(4), and thus meet industrial applicability because the subject matter claimed can be made or used in industry.